

LCD Kiosk Touchmonitor User's Guide

Models

P284-LCD104-S

P284-LCD121-S

P284-LCD15-S

Elo TouchSystems, Inc.

A Raychem Company

1-800-ELOTOUCH

www.elotouch.com

P/N 008505 DOC# SW500014



TOUCHSYSTEMS

A Raychem Company

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Regulatory Information

I. Electrical Safety Information:

A) Compliance is required with respect to the voltage, frequency, and current requirements indicated on the manufacturer's label. Connection to a different power source will likely result in improper operation, damage to the equipment or pose a fire hazard if the limitations are not followed.

B) There are no operator serviceable parts inside this equipment. There are hazardous voltages generated by this equipment which constitute a safety hazard. Service should be provided only by a qualified service technician.

C) This equipment is provided with a detachable power cord which has an integral safety ground wire and 3-prong connector intended for connection to a grounded safety outlet.

1) Do not substitute the cord with other than the provided approved type, and under no circumstances use an adapter plug to connect to a 2-wire outlet as this will defeat the continuity of the grounding wire.

2) The equipment requires the use of the ground wire as a part of the safety certification, modification or misuse can provide a shock hazard that can result in serious injury or death.

3) Contact a competent electrician or the manufacturer if there are questions about the installation prior to connecting the equipment to mains power.

II. Emissions and Immunity Information

A) Notice to Users in the United States: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

B) Notice to Users in Canada: This equipment complies with the Class A limits for radio noise emissions from digital apparatus as established by the Radio Interference Regulations of Industrie Canada.

C) Notice to Users in the European Union: Use only the provided power cords and interconnecting cabling provided with the equipment. Substitution of provided cords and cabling may compromise electrical safety or CE Mark Certification for emissions or immunity as required by the following standards:

This Information Technology Equipment (ITE) is required to have a CE Mark on the manufacturer's label which means that the equipment has been tested to the following Directives and Standards:

This equipment has been tested to the requirements for the CE Mark as required by EMC Directive 89/336/EEC indicated in European Standard EN 55 022 Class B and the Low Voltage Directive 73/23/EEC as indicated in European Standard EN 60 950.

D) General Information to all Users: This equipment generates, uses and can radiate radio frequency energy. If not installed and used according to this manual the equipment may cause harmful interference with radio and television communications. There is, however, no guarantee that interference will not occur in any particular installation due to site-specific factors.

1) In order to meet emission and immunity requirements, the user must observe the following:

- a) Use only the provided I/O cables to connect this digital device with any computer.
- b) To ensure compliance, use only the provided manufacturer's approved line cord.
- b) The user is cautioned that changes or modifications to the equipment not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

2) If this equipment appears to cause interference with radio or television reception, or any other device:

- a) Verify as an emission source by turning the equipment off and on.
- b) If you determine that this equipment is causing the interference, try to correct the interference by using one or more of the following measures:
 - i) Move the digital device away from the affected receiver.
 - ii) Reposition (turn) the digital device with respect to the affected receiver.
 - iii) Reorient the affected receiver's antenna.
 - iv) Plug the digital device into a different AC outlet so the digital device and the receiver are on different branch circuits.
 - v) Disconnect and remove any I/O cables that the digital device does not use. (Unterminated I/O cables are a potential source of high RF emission levels.)
 - vi) Plug the digital device into only a grounded outlet receptacle. Do not use AC adapter plugs. (Removing or cutting the line cord ground may increase RF emission levels and may also present a lethal shock hazard to the user.)

If you need additional help, consult your dealer, manufacturer, or an experienced radio or television technician.

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Chapter 1

Introduction

Congratulations on your purchase of an Elo TouchSystems LCD Kiosk Touchmonitor. Your new high-resolution touchmonitor combines the reliable performance of Elo's touch technology with the latest advances in LCD display design. This combination of features creates a natural flow of information between a user and your touchmonitor.

About This Manual

This manual includes assembly instructions, touch technology data, on-screen adjustment instructions and technical specifications for Elo TouchSystems' 10.4-inch, 12.1-inch and 15-inch LCD Kiosk Touchmonitors.

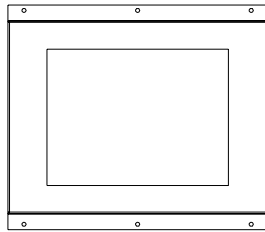
- **Chapter 1:** Unpacking your new touchmonitor, designing your kiosk cabinet, cleaning your touchmonitor, and contacting Customer Service and Technical Support.
- **Chapter 2:** Overview of touch technology including sections on IntelliTouch and SecureTouch touchscreens.
- **Chapter 3:** LCD Kiosk Touchmonitor installation.
- **Chapter 4:** LCD Kiosk Touchmonitor operation and adjustments.
- **Appendix A:** Troubleshooting tips.
- **Appendix B:** LCD Kiosk Touchmonitor safety precautions.
- **Appendix C:** LCD Kiosk Touchmonitor specifications.

LCD Kiosk Touchmonitor Features

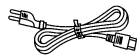
- 10.4-inch (211.2 x 158.4 mm useful), 12.1-inch (246.0 x 184.5 mm useful) or 15-inch (304.1 x 228.1 mm useful) diagonal screens.
- Compatible with VGA (10.4-, 12.1-, and 15-inch), Super VGA (12.1- and 15-inch), and XGA (15-inch only) video standards.
- High brightness pictures for operation in brightly lit environments.
- Digital “on-screen” adjustments which remain in the touchmonitor’s memory allowing for easy setup and maintenance-free operation (12.1- and 15-inch only).
- Durable Elo TouchSystem’s LCD Kiosk Touchmonitor metal frame construction.
- Elo TouchSystems patented touchscreen technology.

Unpacking Your Touchmonitor

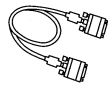
Carefully unpack your touchmonitor. Check that you have everything you need and that none of the components have been damaged during shipping. Save the box and packaging in case you need to ship the touchmonitor.



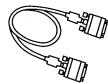
Kiosk TouchMonitor



AC power cord



Video cable (15-pin)



Touchscreen cable (9-pin)

Kiosk Cabinet Design

- Give some thought as to where in the kiosk cabinet you place the touchmonitor. The user should be able to easily reach the screen, so do not place the touchmonitor either too high or too low in the cabinet.
- Your touchmonitor and PC need to remain dry. If your kiosk must be located outdoors build a cabinet that protects your touchmonitor and PC from the weather (see Appendix C for touchmonitor environmental specifications).
- Build the kiosk cabinet so that it will support the weight of the touchmonitor (see Appendix C for touchmonitor specifications).
- To ensure trouble-free operation, make certain your Kiosk Touchmonitor is properly ventilated. Leave at least four inches of air space around the touchmonitor and make certain that the ventilation slots, located on the top, bottom of the touchmonitor, are not covered or blocked.
- The temperature around your touchmonitor needs to remain within the range specified in the tables in Appendix C. An increase in temperature will degrade your touchmonitor's performance and reduce its life span.

- Dust will damage your touchmonitor. You can prevent damage this damage by keeping the air ventilation intake away from the floor, or by adding a filter.
- You want your kiosk cabinet to make a good first impression on potential users. Choose a finish that does not show finger prints. Avoid polished stainless steel, chrome or glossy black paint.

Note: See Chapter 4 in this manual for more information about adjusting your touchmonitor screen picture.

Care and Handling Of Your Touchmonitor

The following tips will help you keep your Kiosk Touchmonitor functioning at the optimal level:



Protect your touchmonitor from extremely low or high temperatures (see Appendix C, Technical Specifications).



Keep your touchmonitor dry. Do not wash it with a wet cloth or pour fluid into it.



Check your touchmonitor for condensation. If condensation develops, do not power your touchmonitor on until the condensation evaporates.



Protect your touchmonitor from being bumped or dropped.



Keep your touchmonitor away from dust, sand and dirt.



Keep your touchmonitor away from humid environments.

Cleaning Your Kiosk Touchmonitor

Prevent damage to your touchmonitor (and PC) by powering off the computer system and disconnecting the touchmonitor from the AC outlet before you clean it. After you finish cleaning, make sure the touchmonitor is completely dry before you reconnect the cables and power it on. Do not apply liquid or aerosol spray cleaners directly on the screen or cabinet. Do not use any type of abrasive pad, alkaline cleaner, scouring powder or solvent (such as alcohol or benzine) to clean your touchmonitor. Avoid getting liquids inside your touchmonitor. If liquid does get inside, have a qualified service technician check it before you power it on again.

Screen

Remove dust and dirt by wiping the touchscreen with a soft, clean, lint-free cloth. Moisten a soft cloth with an ammonia-based glass cleaner and use it to remove fingerprints and smudges.

Case

Clean the touchmonitor cabinet with a soft cloth slightly moistened with a mild detergent solution. Rinse the cloth with clear water, wring it dry, and wipe the cabinet to remove any detergent residue.

Contacting Elo

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Chapter 2

Touch Technology

Touchscreens

Typically, people communicate with computers using a mouse, a keyboard or a combination of the two. Users who are not keyboard literate or mouse savvy can become frustrated with how long human-to-computer interactions take.

Computer literacy is learned. This is complicated by the fact that using a keyboard or a mouse is neither intuitive nor natural for most people. Touchscreens cut out the learning curve by eliminating keyboard/mouse intermediaries and allowing a natural flow of information to develop between a user and a computer.

When a user wants to access information or perform a function on a computer with a touchscreen installed, a touch does the job that often complicated keyboard interactions or clumsy mice movements used to do—only faster and more accurately. The beauty and power of a touchscreen is that users do not have to think, they just do.

Touchscreens speed up user/computer interactions. People get what they want faster and are more satisfied with the process. A clumsy, frustrating experience with a computer during a transaction can create dissatisfaction for your customer. This negative atmosphere can transfer itself to your product or service. Touchscreens help eliminate unpleasant transactions by creating a natural flow of information that enhances your product or service.

Chapter 2: Touch Technology

The Internet is one example of how a touchscreen can add value to your business. The Internet created a new layer of user frustration by placing the power of information at a user's fingertips, and the barrier of a mouse or keyboard between the information and the user. Touchscreens tear down that barrier by eliminating the thought process involved with wondering what key to hit or why the mouse is not functioning.

Obviously, trapping your company's website on your computer provides a wonderful information source to your customers, not to mention an impressive sales tool for your employees. Elo TouchSystems offers touchscreen and software solutions that make the Internet and your website profitable and easy-to-manage. Elo's Kiosk Touchmonitor in combination with Elo's new Web Enabler browser overlay software effectively freeze your website, making the rest of the Internet invisible and allowing you to control and monitor user access.

There are many examples of how touchscreens create value for your business—point-of-information kiosks located in hotels and museums, vending machines, electronic catalogs, gaming and lottery machines and ticket sales are just a few of the possibilities.

Touchscreens are fun. Users who enjoy their touchscreen experiences become return customers to your place of business or kiosk.

Basically, touchmonitors consist of a touchscreen, a sensor, a monitor, a touch controller, and a software driver. The technology that goes into simplifying user/computer interactions is transparent, but not elementary.

IntelliTouch

IntelliTouch uses Elo's patented Surface Wave Technology to provide superior image clarity, stable drift-free operation, and a durable surface that is unaffected by scratches. With IntelliTouch you get fast, accurate response to soft stylus stimulation (finger, gloved hand, pencil eraser) that is also sensitive to pressure. For example, a customer in a department store can scroll through a product catalog by increasing or decreasing pressure on an icon. IntelliTouch's pressure sensitivity increases the intuitive nature of a user/touchscreen interaction by allowing for increased selectivity. In other words, if you want to quickly scroll to the next item, press harder and if you want to stop scrolling, stop pressing.

An IntelliTouch touchscreen is a great choice for point-of-information or public access applications such as the following:

- Point-of-information kiosks
- Vending
- Electronic Catalogs
- In-store locators
- Gaming and lottery
- Banking/financial transactions
- Ticket sales
- Interactive education
- Multimedia demonstrations

Kiosk Touchmonitors

Kiosks are all around us—whether we notice them or not. The stand in the middle of a hotel lobby offering up piles of brochures is a kiosk. The booth in the airport where you buy your pre-flight gum is a kiosk. A kiosk is a small pavilion with one or more open sides. Kiosks function as newsstands, coffee stands and point-of-information booths—and they are everywhere.

Adding a touchmonitor to a kiosk brings a new dimension of functionality to it. For example, a Kiosk Touchmonitor can sell airline or theater tickets, give information or directions in a museum or hotel, act as an ATM to process bank transactions, and demonstrate products. Since kiosks do not take up much space they are a cost efficient addition to your work force.

When you place a computer and touchmonitor into a kiosk cabinet, you want it to remain trouble-free for as long as possible. Elo's technical expertise and robust pass/fail testing go into creating a Kiosk Touchmonitor that will withstand stress and succeed in a public access context.

The custom designed metal chassis serves as a protective structure for the touchscreen and its bezel. The flat touchmonitor bezel is sealed to the touchscreen in order to protect the touchmonitor electronics from splashed liquids, dirt and dust.

Elo designed its Kiosk Touchmonitor to allow for creativity in your cabinet plans. Elo's Kiosk Touchmonitors fit into your cabinet designs, not the other way around.

Chapter 3

Installation

Basic Assembly Instructions

Read the section about touchmonitor safety in Appendix B before installing your touchmonitor. Also read the section about designing your kiosk cabinet found in Chapter 1.

Your touchmonitor is designed to operate from 100 to 240 VAC at 50 to 60 Hz. It automatically senses and adjusts for the supply voltage.

Note: Do not install your touchmonitor where it will be subject to direct sunlight, excessive dust, mechanical vibration or shock, or near heat sources such as radiators or air ducts.

- Set the touchmonitor into the kiosk cabinet before connecting the cables and plugging your PC into the wall socket. See Chapter 4 for information on making any necessary display adjustments.
- After you make your display adjustments, settle the Kiosk Touchmonitor into the cabinet.

Connecting The Cables

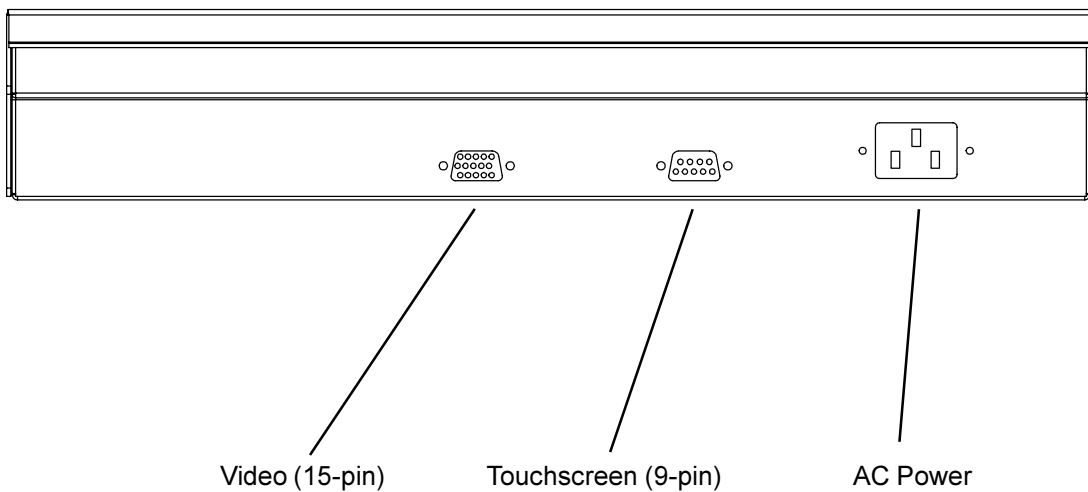


Figure 3.1: Connecting cables to your LCD Kiosk Touchmonitor

1. Before connecting the cables to your touchmonitor and PC, be sure that the computer and the touchmonitor are turned off.
2. Connect one end of the video cable to the video connector on your PC. Connect the other end of the video cable to the touchmonitor. Secure the cable to your touchmonitor and PC by turning the screws on the connector.

3. The touchscreen cable connects the serial port on the back of your PC to the Touchscreen connector on your Kiosk touchmonitor. The serial port is a nine-pin connector on the back of your PC. The touchscreen cable connectors should fit snugly into the connectors on your touchmonitor and PC.
4. Connect the power cord to the AC connector on your touchmonitor. To protect your equipment against risk of damage from electrical surges in the power line, plug the touchmonitor's power cord into a surge protector, and then connect the power strip to a grounded (three-pronged) AC electrical outlet.
5. Power on your PC. After a brief warm-up period the picture should appear.

Hardware installation is complete.

Note: Unless you disconnect the power cord from the wall, your Kiosk Touchmonitor will always remain in power-on mode.

6. Install the Elo MonitorMouse™ driver software using the procedure described in the documentation accompanying the driver disk.

Chapter 4 Operation

Kiosk Touchmonitor Controls

By design your LCD Kiosk Touchmonitor should not require any adjustments. The factory settings will give you optimum video results with most standard PC video display adapters.

However, after connecting your touchmonitor, should you notice picture instability, jitter, and/or a lack of good contrast, follow the directions in this chapter to optimize the settings.

The control buttons are located on the back and easily accessible by the touchmonitor installer. The available controls are similar on each of the LCD Kiosk Touchmonitor models, but the 10.4-inch (Model P284-LCD104-S) implements them differently.

All adjustments you make to the controls are automatically memorized. This feature saves you from having to reset your choices every time you unplug, or power your touchmonitor off and on. If there is a power failure your touchmonitor settings will not default to the factory specifications.

IMPORTANT: To avoid electric shock, do not use conductive metal objects to access the Kiosk touchmonitor's controls. Read the safety notices in Appendix B prior to making adjustments to your Kiosk touchmonitor.

IMPORTANT: Do not remove the Kiosk touchmonitor cover as there are high voltages and sharp metal edges inside the touchmonitor cover.

Controls on Models P284-LCD121-S and P284-LCD15-S

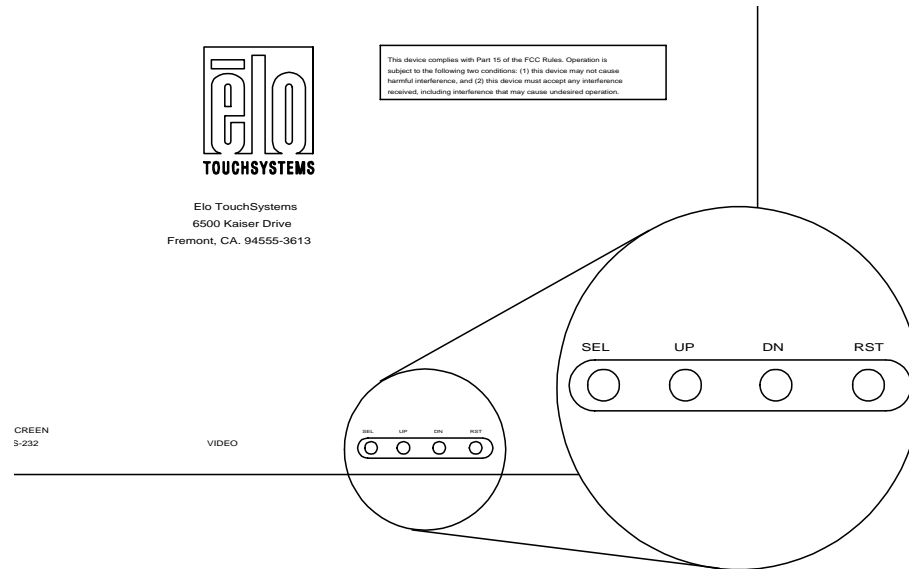


Figure 4.1: 12.1- and 15-inch LCD Kiosk Touchmonitor controls

The four buttons accessible through the elliptical slit on the back of the touchmonitor (shown above) allow you to use the touchmonitor's on-screen control menus. The button functions are printed just above each button for easy identification.

To reach these buttons, use a non-metallic, non-conductive tool. Ideally, this tool should be at least 5 inches long and no more than 0.250-inch in diameter with a flat end. To affect the settings, the buttons need to be momentarily pressed as described below.

- SEL** - Activates and selects the on-screen menus.
- UP** - Moves between menu selections or increases selected setting.
- DN** - Moves between menu selections or decreases selected setting.
- RST** - Resets all controls to default factory settings.

Controls on Models P284-LCD121-S and P284-LCD15-S

Use this procedure to change any of the on-screen controls listed in Table 4.1 on the next page.

1. Activate the on-screen display by pressing the **SEL** button once.
2. Use the **UP** and **DN** buttons to scroll through the menu options.
3. Press the **SEL** button to select the highlighted sub-menu.
4. Again, use the **UP** and **DN** buttons to scroll through the menu options.
5. Press the **SEL** button to select a setting.
6. Make the desired adjustment using the **UP** and **DN** buttons.
7. Press **SEL** to affect setting change and return to the main menu.

Chapter 4: Operation

Basic Adjustments

Brightness	Not to be confused with backlight brightness, this adjustment will affect the "black level" setting. In effect it controls the overall "gray scale" range by moving the overall video envelope toward or away from the "white" reference level.
Contrast	Modulates the video gain.
Phase	Optimizes the internal phase lock loop (PLL) timing. This adjustment is rarely used.
Default Settings	Restore factory default settings stored in the touchmonitor's memory. These defaults cannot be overwritten.
Exit	Exits Basic Adjustments menu.

Image Position

Horizontal Position	Affects the horizontal image position.
Horizontal Size	Affects the horizontal image size.
Vertical Position	Affects the vertical image position.
Expand/Center	Affects the vertical image size.
Exit	Exits the Image Position menu.

System

Language	Not implemented.
OSD Position	Sets screen location where the on-screen menu appears.
OSD Turn Off Time	Sets the time delay before the on-screen menus are deactivated if not accessed.
Mode Indication	Displays the current video mode information, including resolution, and horizontal and vertical scan/refresh rates.
Exit	Exits System menu.

Table 4.1: On-screen touchmonitor control menus (12.1- and 15-inch models).

Controls on Model P284-LCD104-S

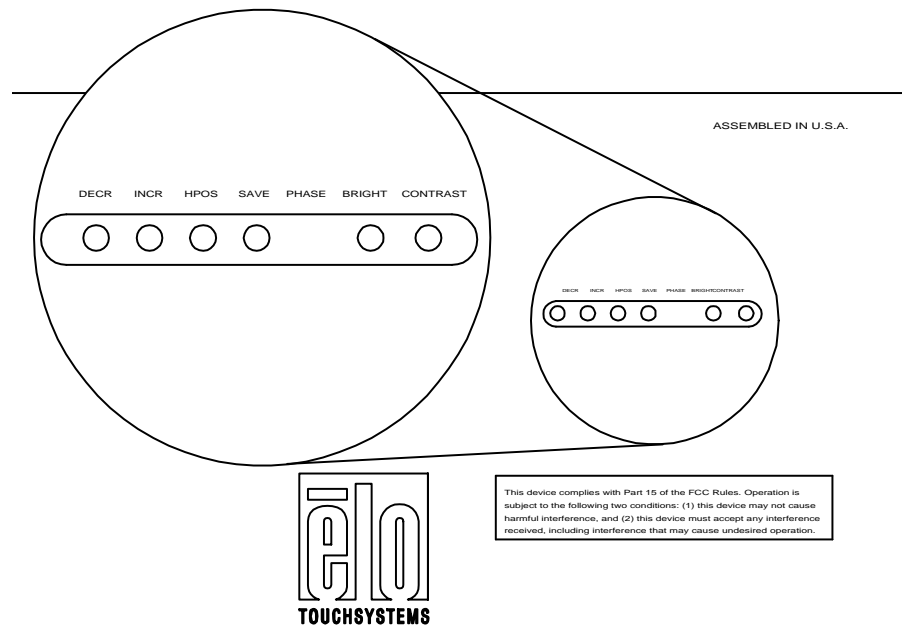


Figure 4.2: 10.4-inch LCD Touchmonitor controls

The six buttons accessible through the elliptical slit on the back of the touchmonitor (shown above) allow you to access control settings. The button functions are printed just above each button for easy identification.

Chapter 4: Operation

To reach these buttons, use a non-metallic, non-conductive tool. Ideally, this tool should be at least 5 inches long and no more than 0.250-inch in diameter with a flat end. To affect the settings, the buttons need to be momentarily pressed as described below.

DECR	- Decrease selected setting.
INCR	- Increase selected setting.
HPOS	- Adjust horizontal position setting.
SAVE	- Saves settings in the touchmonitor's memory.
PHASE	- Not implemented.
BRIGHT	- Not to be confused with backlight brightness, this adjustment will affect the "black level" setting. In effect it controls the overall "gray scale" range by moving the overall video envelope toward or away from the "white" reference level.
CONTRAST	- Modulates the video gain.

Use this procedure to adjust any of the settings on the 10.4-inch model (P284-LCD104-S).

1. Press the button for the setting you want to adjust.
2. Use the **INCR** and **DECR** buttons to adjust the setting.
3. Press the **SAVE** button to save your new settings into the touchmonitor's memory.

Adjusting Backlight Brightness

Important: This feature may not be implemented on your touchmonitor.

An additional control for “Brightness” is provided to set the backlight brightness level. It is located through a different access hole in the case of the monitor. On the 10.4- and 12.1-inch models (P284-LCD104-S and P284-LCD121-S) this control is located on the back panel of the unit. On the 15-inch model (P284-LCD15-S) this control is located on the left flange (as viewed from the front of the touchmonitor).

To access this rotary adjustment use a non-metallic, non-conducting, small regular screwdriver. The default setting for this control is 100% (maximum backlight brightness). Turn the screwdriver to select the desired backlight brightness level.

Appendix A

Troubleshooting

Problem:	Suggestion:
No picture	<p>Your touchmonitor may not be getting power. Make certain that your power-strip is plugged into the wall socket and that the PC and touchmonitor are plugged in and powered on.</p> <p>Test power supply by trying different cables, a different wall outlet or plug another appliance into the outlet.</p> <p>Power your touchmonitor on and off a couple of times.</p> <p>Make certain the video cable is properly connected and that it is not damaged. Check for bent pins on the cable connectors.</p> <p>Ensure that your computer and video card are properly configured. (Consult video card documentation.)</p>

Appendix A: Troubleshooting

Problem:	Suggestion:
Picture appears to be ghosting	Make certain there is a good connection between the touchmonitor and the computer.
Picture is not centered	Read about adjusting your touchmonitor picture (Chapter 4) and make the appropriate adjustments.
Picture is “jittery”	Reset your contrast setting (see Chapter 4).
Picture appears “washed out”	Reset your digital brightness (“black level”) setting (see Chapter 4).
Picture not present or severely distorted	Verify your video display adapter settings are formatted for the correct resolution and vertical refresh rates (see Chapter 4).
Touch doesn’t work	Check cables. Reload the driver. For assistance consult your Software Troubleshooting Instructions.

Appendix B

Touchmonitor Safety

This manual contains information that is important for the proper setup and maintenance of your touchmonitor. Before setting up and powering on your new touchmonitor, read through this manual, especially Chapter 3 (Installation), and Chapter 4 (Operation).

1. To reduce the risk of electric shock, follow all safety notices and never open the touchmonitor case.
2. Your new touchmonitor is equipped with a 3-wire, grounding power cord. The power cord plug will only fit into a three-prong safety ground outlet. Do not attempt to fit the plug into an outlet that has not been configured for this purpose. Do not use a damaged power cord. Use only the power cord that comes with your Elo TouchSystems Touchmonitor. Use of an unauthorized power cord may invalidate your warranty.
3. The Kiosk Touchmonitor controls are located on the back side of the unit. To avoid electric shock and/or damage to your equipment never use conductive metal objects to access the touchmonitor's controls.

Appendix B: Touchmonitor Safety

4. The slots located on the sides and top of the touchmonitor case are for ventilation. Do not block or insert anything inside the ventilation slots.
5. It is important that your touchmonitor remains dry. Do not pour liquid into or onto your touchmonitor. If your touchmonitor becomes wet do not attempt to repair it yourself.

Appendix C

Technical Specifications

All specifications are subject to change.

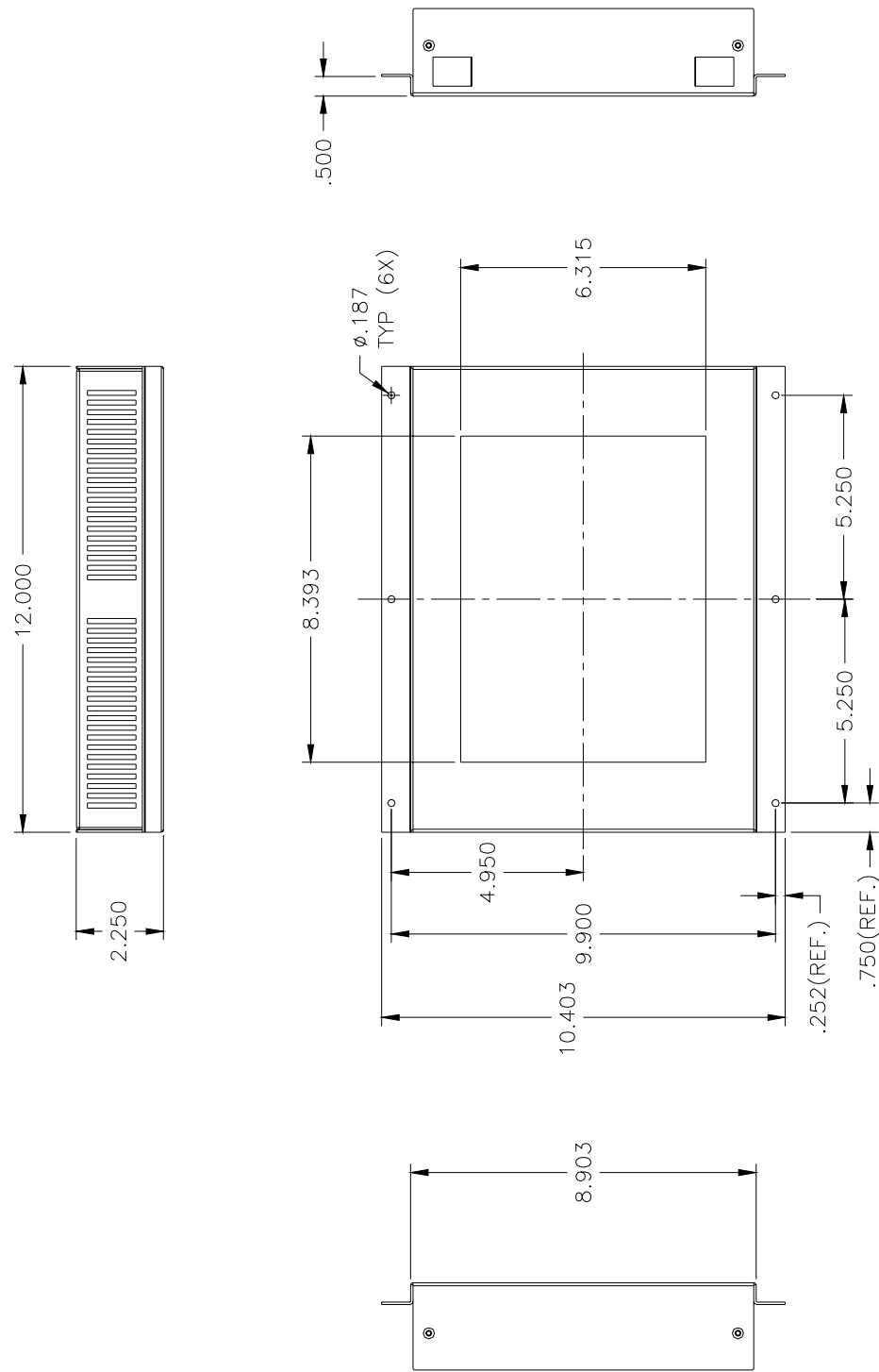
Appendix C: Technical Specifications

LCD Kiosk Touchmonitor (P284-LCD104-S)

Display Type	Active matrix, thin film transistor (TFT), liquid crystal display	
Size	10.4-inch diagonal 211.2 x 158.4 mm useful screen area	
Pixel Format	640 x 480	
Touchscreen	0.125-inch IntelliTouch®, anti-glare Surface acoustic wave (SAW) technology	
Colors	262,144 or 16 million with dithering	
Display Brightness	285 cd/m ² typical	
Back-light Lamp Life	25,000 hours at full brightness typical	
Viewing Angle	Horizontal Vertical	+/- 70 or 140 degrees total +70/-40 or 110 degrees total
Contrast Ratio	300:1 typical	
Display Response Time	20 msec rise, 40 msec delay typical	
Environmental	Operating Temp Storage Temp Humidity	0°C to 40°C -25°C to +70°C 95% non-condensing
Mechanical	Weight Size	9.0 lbs. See drawings on next page
Electrical	Input Video Input Power Power Dissipation	VGA analog video 100-240 VAC, 50/60 Hz. Universal 25 watts at maximum brightness typical
Agencies	Safety & EMC	UL, cUL and TUV FCC-B and CE

Table C.1: LCD Kiosk Touchmonitor (P284-LCD104-S)

LCD Kiosk Touchmonitor (P284-LCD104-S)



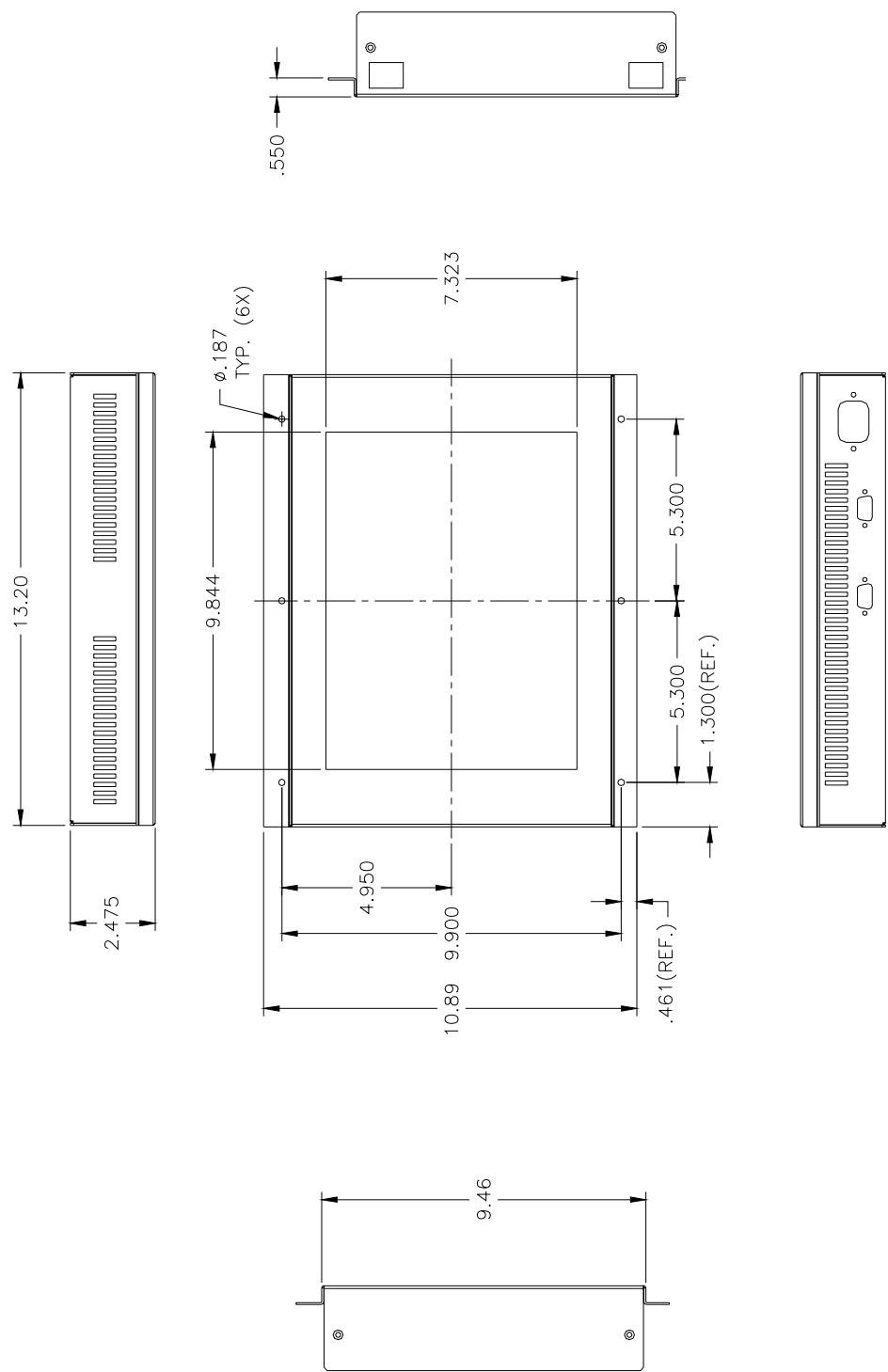
Appendix C: Technical Specifications

LCD Kiosk Touchmonitor (P284-LCD121-S)

Display Type	Active matrix, thin film transistor (TFT), liquid crystal display	
Size	12.1-inch diagonal 246.0 x184.5 mm useful screen area	
Pixel Format	800 x 600	
Touchscreen	0.125-inch IntelliTouch, anti-glare Surface acoustic wave (SAW) technology	
Colors	262,144 or 16 million with dithering	
Display Brightness	255 cd/m ² typical	
Back-light Lamp Life	30,000 hours at full brightness typical	
Viewing Angle	Horizontal Vertical	+/-70 or 140 degrees total +/-55 or 110 degrees total
Contrast Ratio	300:1 typical	
Display Response Time	20 msec rise, 40 msec delay typical	
Environmental	Operating Temp Storage Temp Humidity	0°C to 35°C -25°C to +60°C 95% non-condensing
Mechanical	Weight Size	10.5 lbs. IntelliTouch, 11.0 lbs. SecureTouch See drawings on next page
Electrical	Input Video Input Power Power Dissipation	VGA/SVGA analog video 100-240 VAC, 50/60 Hz. Universal 35 watts at maximum brightness typical
Agencies	Safety & EMC	UL, cUL and TUV FCC-B and CE

Table C.2: LCD Kiosk Touchmonitor (P284-LCD121-S)

LCD Kiosk Touchmonitor (P284-LCD121-S)



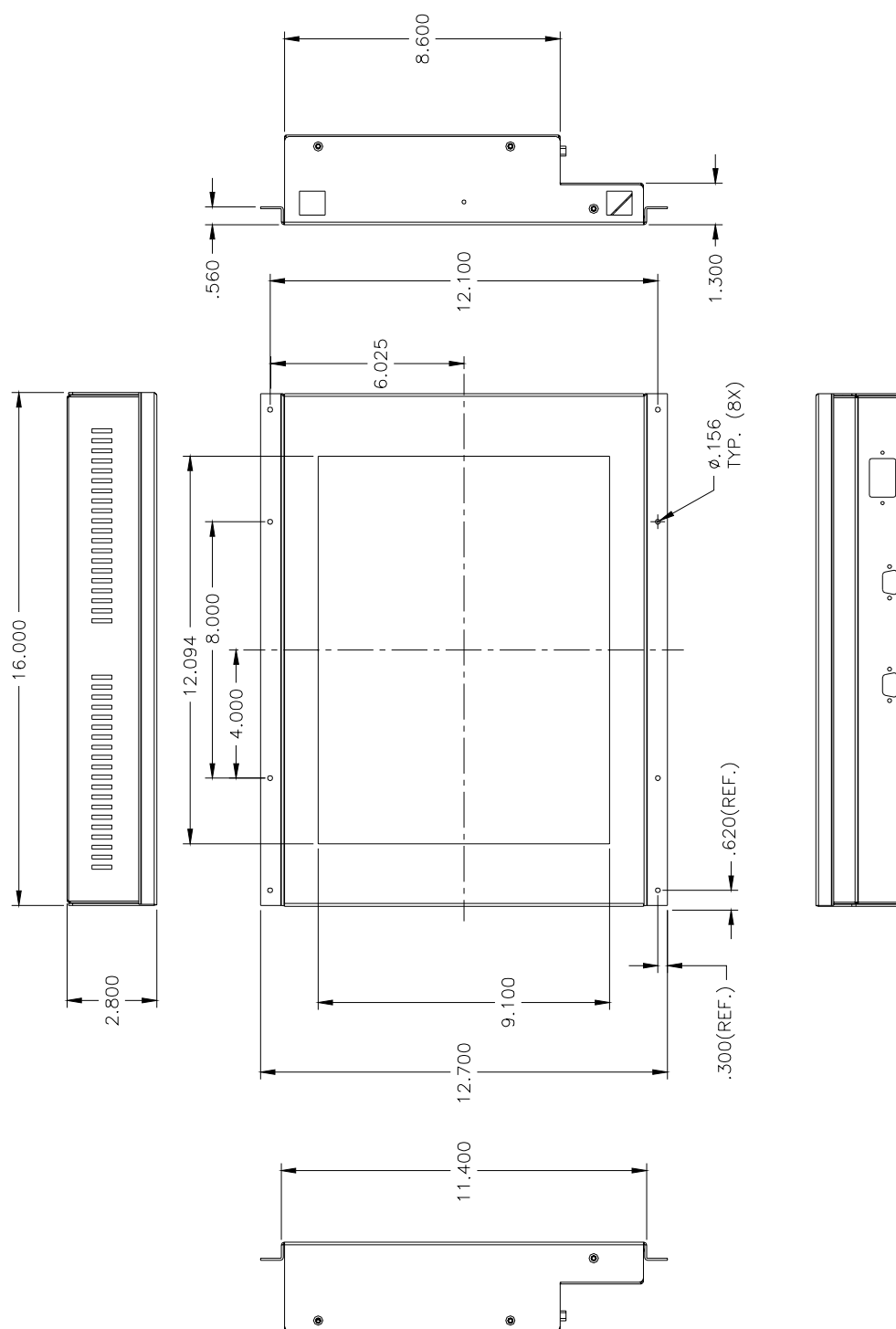
Appendix C: Technical Specifications

LCD Kiosk Touchmonitor (P284-LCD15-S)

Display Type	Active matrix, thin film transistor (TFT), liquid crystal display	
Size	15-inch diagonal 304.1 x 228.1 mm useful screen area 1024 x 768 pixel format	
Pixel Format	1024 x 768	
Touchscreen	0.125-inch IntelliTouch, anti-glare Surface acoustic wave (SAW) technology	
Colors	262,144 or 16 million with dithering	
Display Brightness	190 cd/m ² typical	
Back-light Lamp Life	25,000 hours at full brightness typical	
Viewing Angle	Horizontal Vertical	+/-70 or 140 degrees total +/-60 or 120 degrees total
Contrast Ratio	150:1 typical	
Display Response Time	30 msec rise, 50 msec delay typical	
Environmental	Operating Temp Storage Temp Humidity	0°C to 35°C -25°C to +60°C 95% non-condensing
Mechanical	Weight Size	15 lbs. IntelliTouch See drawings on next page
Electrical	Input Video Input Power Power Dissipation	VGA/SVGA/XGA analog video 100-240 VAC, 50/60 Hz. Universal 40 watts at maximum brightness typical
Agencies	Safety & EMC	UL, cUL and TUV FCC-B and CE

Table C.3: LCD Kiosk Touchmonitor (P284-LCD15-S)

LCD Kiosk Touchmonitor (P284-LCD15-S)





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